

ABSTRACT OF THE DISCLOSURE

[0064] Semiconductor chip which emits electromagnetic radiation, and method for fabricating it.

To improve the light yield of semiconductor chips which emit electromagnetic radiation, a textured reflection surface (131) is integrated on the p-side of a semiconductor chip. The semiconductor chip has an epitaxially produced semiconductor layer stack (1) based on GaN, which comprises an n-conducting semiconductor layer (11), a p-conducting semiconductor layer (13) and an electromagnetic radiation generating region (12) which is arranged between these two semiconductor layers (11, 13). The surface of the p-conducting semiconductor layer (13) which faces away from the radiation-generating region (12) is provided with three-dimensional pyramid-like structures (15). A mirror layer (40) is arranged over the whole of this textured surface. A textured reflection surface (131) is formed between the mirror layer (40) and the p-conducting semiconductor layer (13). The textured reflection surface (131) can increase the amount of light which is decoupled at the radiation-outcoupling surface (111) by virtue of the fact that a beam (3), after double reflection on the reflection surface (131), is more likely not to be totally reflected.